International Egyptian Journal of Nursing Sciences and Research (IEJNSR)

Original Article

Enhancing nurses' resilience, knowledge, and perception regarding intensive care unit psychosis.

Sabah Abo El ftouh Mohamed [1] & Amina Ahmed Wahba El-Salamony [2]

[1] Assistant Professor Psychiatric and Mental Health Nursing, Faculty of Nursing, Kafrelsheikh University, [2] Lecturer of Psychiatric Nursing and Mental Health, Faculty of Nursing, Kafrelsheikh University, Egypt

ABSTRACT

Intensive care unit psychosis, delirium, is a common disorder among patients in the intensive care units. It is an under-detected problem. Nurses' position at the forefront of patient care requires necessary successful delirium assessment and management. Nurses working with those patients are in challenging and a potentially high stress, which can lead to harmful impacts for those nurses. For this, resilience is considered a positive adaptation to nurses' stress management ability and mental wellbeing. The *aim* of this study is to enhance the nurses' Resilience, knowledge, and perception regarding intensive care unit psychosis. *Design:* This study followed a quasi- experimental correlational research design. *Setting:* It was conducted at intensive care unit located at Kafrelsheikh general hospital. *Subject:* The subjects of this study included 50 nurses. *Tools:* Three tools were used to collect data of this study, **Tool I: "** Nurses' perception questionnaire regarding delirium", **Tool II; "** Nurses' knowledge questionnaire regarding delirium and its risk factors", **Tool III:** The Connor –Davidson Resilience Scale (CD-RISC). *Results:* The main results revealed that there were marked significant improvement in the studied nurse total scores of resilience, knowledge and perception concerning delirium after implementation of the interventional program. Also, there were a statistically significant positive correlation between nurses' resilience, knowledge, and perception regarding delirium. *Conclusion*: the interventional program sessions played a vital role in improvements of nurses' level of resilience, knowledge, and perception toward ICU psychosis. *Recommendations:* conducting the interventional program as a continuous training for all nurses to achieve more conclusive results.

Key words: Resilience, knowledge, Perception, ICU Psychosis, Nurses

Introduction:

Nursing is a highly stressful profession as it based on complicated therapeutic relationships. It requires providing compassionate care in a therapeutic relationship with the patient and teamwork **(Matos., et al. 2010)**. However, nurses may become vulnerable to several traumatic and stressful events while providing patients' care (**Jalil, et al. 2017.).** Some of these stressful events are

related to psychiatric symptoms that include patient cognition, emotions, and behaviors. One of the most serious psychiatric symptom/disorder is ICU psychosis which referred to as "delirium" and "acute brain failure" **Jafarizadeh., et al. 2017. & Tonso,. et al.2016).**

Intensive care unit psychosis, also termed as; delirium, 'acute confusional state', 'toxic or metabolic encephalopathy', or 'acute brain failure',

is basically defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) as an acute change in attention and awareness that develops over a relatively short time interval and associated with additional cognitive deficits such as memory deficit, disorientation, or perceptual disturbances (**McIsaac,et al 2020**). It is considered one of the most prevalent neuro psychiatric syndromes that is associated with poor prognosis as it is underdiagnosed by medical staff, since it can progress to critical conditions with (stupor, coma) and consequently to death if the under lying causes remains untreated. (**APA 2016, and Bento, Marques, &Sousa, 2018).**

Nurses are constantly in the front line position to detect and monitor ICU psychosis, delirium, because they provide continuous care for the patient; they are key resources for identifying early changes in the patient's mental status in the ICU setting (**Faught, 2014).**

ICU psychosis, delirium, is a transient mental syndrome, lasting only 24 to 48 hours caused by organic factors as metabolic disturbances, electrolyte imbalances, withdrawal syndromes, acute infection (intracranial and systemic), seizures, head trauma, vascular disorders, and intracranial space-occupying lesions. Many medications and substances cause delirium through intoxication or poisoning and withdrawal (**kiran, Madhuri & Kotturi, 2015. & Roshdi &Sabri 2016**). It generally characterized by sudden onset of cognitive disturbances altered level of consciousness, impaired attention, increased or decreased psychomotor activity or irregular sleep-wake cycle. It may present with rapid mood changes, agitation, restlessness, and/or hallucinations, or lethargy and sluggishness. (**Ozsaban & Acaroglue 2016, kallenbach & Amado 2017).**

ICU psychosis, delirium, is not only increases morbidity and mortality rates, but is also a source of distress to nurses and the medical team (**Jayaswal, Sampath, Soohinda & Dutta, 2019**). Poor diagnosis of delirium might be due to reduced knowledge of delirium by medical staff, inadequate bedside assessment, few direct monitors of the central nervous system, and impairment of verbal contact due to need ventilation and frequently either completely missed or misinterpreted as dementia or depression by nurses as well as physicians (**Ozsaban & Acaroglu 2016, and Kallenbach & Amado, 2017).**

As this syndrome is common in hospitals especially intensive care units with poor diagnosis and poor information; nurses suffer a lot. Nurses' feeling of a lack of control and uncertainty at work may increase, leading to burnout, high emotional exhaustion, high levels of depersonalization and low personal accomplishment (**Maslach, Leiter. 2008**). The prevention, identification, and management of delirium has important consequences for patient outcomes, both during admission and after discharge (**Ali, Cascella 2022**). For all these work difficulties, building resilience skills is very important.

Nurses' resilience is a positive emotion, which conveys skill that can be learned in order to turn bad experiences into good experiences during the

patient care lead to a positive outcome for patients and nurses **(Jafarizadeh, et al. 2017)**. Psychological resilience is therefore a dynamic and interactional process of recovery from adversity where adaptive responses lead to restoration of well-being through multiple internal (individual) and external (environmental) protective factors and self-regulatory processes **(King & Rothstein, 2010; Masten & Obradovic, 2006)**. Also, Resilience is described as the process of people adapting well to the adversities they face and staying optimistic about the future **(Dzau, Kirch, & Nasca, 2018)**.

Resilience, the individual's ability to deal with adversities as challenges, has been shown to reduce the impact of traumatic events, decreasing the likelihood of developing posttraumatic stress disorders **(Lee, et al. 2014)**. Resilience can be understood as a process of positive adaptation to a stressful situation, in which an interaction between personal resources and the environment is established **(Foster, et al. 2019)**. Resilience varies from person to person and depends on several factors, such as personality or interpersonal and social backgrounds.

In healthcare personnel, a key factor for promoting resilience is to increase the sense of control over the adverse situation. For example, perceiving that disease prevention measures can be managed or controlled (**Vinkers, et al 2020**).

Significance of the problem

ICU psychosis is a common psychiatric and medical emergency, occurring in 20% to 70% of hospitalized patients and 70 to 87% within the ICU **(Ali, Cascella 2022),** and nurses are expected to provide optimum care in spite of the traumatic situations they experience in their troubled and stressful working lives. Thus, resilience levels of nurses should be considered.

ICU psychosis is hindered by poor detection. Nurses, who spend more time at the bedside, play a crucial role in the recognition of delirium. Because nurses have continuous contact with patients, they can better observe fluctuations in attentions, level of consciousness, and cognitive functioning **(Sharma et al., 2012 & *Fan, et al. 2012 & Mansour* , et al. 2010).**

ICU psychosis poses a serious human and financial burden because of risk of morbidity, prolonged hospitalization, more nursing observation, and resultant decline in quality of care and increase morality and increased long-term conative impairment and higher medical expenditures.

Aim of the study:

This study aimed to enhance nurses' resilience, knowledge, and perception regarding intensive care unit psychosis.

Research hypotheses:

- **Directional hypothesis:** The interventional program will have positive effects on nurses' resilience, knowledge, and perception regarding ICU psychosis.

- **Null hypothesis:** The interventional program will haven't any positive effects on nurses'

resilience, knowledge, and perception regarding ICU psychosis.

Subject and Method

Design:

The study followed a quasi-experimental correlational study design.

Setting:

Data collection was carried out in intensive care units located at Kafrelsheikh general hospital; affiliated to Ministry of health. It includes 30 beds.

Subject:

A convenience sample of 50 nurse (29 male & 21 female) involved in providing direct care for critically ill patients and who were willing to participate in this study were recruited.

Tools of the study:

Three tools were used to collect data of this study.

Tool I: " Nurses' perception questionnaire regarding delirium".

This tool was developed by *Anbu, A. S. (2014))* to evaluate nurses' perception of delirium. It is divided into two sections.

Section one: includes nurses' sociodemographic data such as age, sex, marital status, residence, education level, income, years of experience in ICU.

Section two: Nurses' perception questionnaire regarding delirium, it consisted of eight statements. Each item is assessed on a 5 –point Likert scale ranging from 1 to 5, with 1 representing "strongly disagree" and 5 representing "strongly agree". The

minimum number of points is 8 and the maximum number of points is 40.

Scoring system of these questionnaires was as follow:

- $< 50\% =$ Low
- $50: 75\% =$ Moderate
- $> 75\% =$ High

Tool II; " Nurses' knowledge questionnaire regarding delirium and its risk factors". This tool was developed by *Hare, et al. (2008),* to assess ICU nurses' knowledge regarding delirium and its risk factors. This section required nurses to respond "Correct", "Uncertain" or "Incorrect" for 28 statements. where each correct answer takes a score of 3 and incorrect answer takes a score of 1. Twelve items were related to delirium; its presentation and management "knowledge questions", and sixteen statements related to risk factors for delirium "risk questions" The minimum number of points is 28 and the maximum number of points is 84.

Scoring system of these questionnaires was as follow:

- $< 50\% =$ Poor
- $50: 75\% =$ Average
- $> 75\% =$ Good

Tool III: The Connor –Davidson Resilience Scale (CD-RISC)

It was developed by (*Connor & Davidson 2003*) to measure personal competence and acceptance of self and life. The CD-RISC contains 25 items subdivided into the subsequent subdomains: hardiness, coping, adaptability, meaningfulness, optimism, regulation of emotion and cognition, and self-efficacy., all of which carry

a 5-point range of responses, as follows: not true at all (0), rarely true (1), sometimes true (2), often true (3), and true nearly all the time (4). The scale is rated based on how the subject has felt over the past month. The total score ranges from 0– 100, with higher scores reflecting greater resilience.

The scoring classification is.

- <50% = Low
- 50-75% = Moderate or average
- > 75% = High resilience score

Method:

1. An authorized document was allotted from faculty of nursing, kafrelsheikh University to the study setting to attain the approval for data gathering.

2. Tools of the study and the program were translated into Arabic language by the researchers and were tested for content validity by a jury of five experts in the field of psychiatric nursing to determine the fitness of items for assessing what they are created to measure and both tool and program were verified to be valid.

3. Ethical consideration:

   - Written consent for voluntary contribution was attained from all nurses contributing in the study.

   - The study subjects were informed about the aim of the study and reassured about the confidentiality of any attained information that used only for the scientific research.

   - Respecting the right of the study subjects to reject to participate or to withdraw from the study at any Stage was accentuated.

- The study does not produce hurt for the subjects of study

4. A pilot study was performed before progress in the actual study on 10% from total subjects to determine the clarity and applicability of the study tool. In addition, it helped to estimate the estimated time required for implementation of the study tool as well as to recognize hurdles that might be tackled during data gathering. After pilot study, it was found that each nurse took 20- 25 minutes to accomplish tools of the study and no modification was done on study tool. The pilot subjects were excluded later from the actual study sample.

5. Internal consistency of the study tools (tool I, II, III) was done using Cronbach's Alpha coefficient, which (r = 0.924, 0.782,0.890) respectively.

6. The data gathered over a period seven months started from July 2021 to January 2022.

7. **Actual study:** The actual study was divided into four Stages.

I. Stage one: - Assessment Stage (pretest)

The study's tools were dispersed to every study subjects individually, and every subject was asked to complete them in the presence of researchers for any interpretation, and the tools filling time ranged from 20 to 25 minutes. This Stage aimed to determine the study subjects' needs as a reference line for the intervention program development.

II. Stage two:- Development of the intervention program

The researchers created an intervention program based on a review of recent associated literature and Stage one results (**Ali, Cascella 2022**

& Park and Jung. **2021 & Jayaswal, Sampath, Soohinda & Dutta, 2019 & Foster, et al. 2019)**.

The intervention's curriculum was developed, with a focus on (theoretical knowledge of ICU psychosis, resilience, and a variety of skills that assist nurses in promoting resilience when caring for patients with ICU psychosis.

- The objective of the program was determined based on the content of the sessions.
- In the implementation of the education program, lectures, handouts, power points, role-play for virtual scenarios, group discussions, visual, audio, and audio-visual materials were employed as training methods.
- Small groups were used to construct the program. The researcher divided the participants into four subgroups across two days per week, (on Sunday and Tuesday) one in the morning from 9 a.m. to 10.30 a.m., and the other from 12 p.m. to 1.30 p.m.
- The study subjects were divided into eight small groups. Each group consisted of six to eight nurses. Each subgroup had eight sessions, with two sessions each week for a total of four weeks. Each session lasted around (60- 90 minute).

III. Stage three: - Implementation of intervention Program.

The researchers divided the program's implementation Stage into eight sessions.

First Session: It was a preparatory and orientation session focused on developing trust, explaining the program's objective, and identifying major issues for nurses caring for patients with ICU

640

psychosis. At the ending of the session, the researchers distributed the program's plan, which included sub-groups, days, times/hours, and interventional program descriptions.

Second Session: The sessions clarified the concepts of ICU psychosis (delirium), its' risk factors, clinical manifestation, nursing management.

Third session: The sessions included understanding of the concepts of resilience, recognizing psychological resilience, its types, and the characteristics of a resilient person.

Fourth session: From this session to the end, each session was divided into two parts: the first part, in which one researcher construed the theoretical portion of the skills, and the second part, in which the second researcher assisted the nurses in applying the skill in their daily lives and while working with patients. The topics covered in the sessions include "autonomy," "self-confidence," "self-efficacy," and "time management."

Fifth session: It includes topics such as "therapeutic communication skills," "humor and hope," and "assertiveness." The researchers provided instances and discussed the nurses' experiences (issues) while working with patients and other hospital personnel.

Sixth session: It entails cognitive–behavioral strategies such as handling negative self-talk and stimulating positive self-talk and stress management exercises, such as "deep breathing exercise" and "progressive relaxation technique," to assist nurses in dealing with stress. The nurses were

given assignments to assist them employ cognitive and stress coping skills to deal with stress at the end of the session.

Seventh session: This session concentrated on encouraging nurses to engage in spiritual and relaxation practices such as meditation, breathing exercise, and listening to calm music.

Eighth session: The researchers summarize the program and receive feedback from the study subject about the interventional program.

At the completion of the program for each group, printed booklet of the interventional program was given to all study subjects.

• In general, the researchers were the starter, supplier, and encourager of knowledge between the examined nurses and researchers during the program's implementation, and they promoted investigation of their concerns and reactions. They also served as a facilitator, instructor, and trainer in addition to being a group leader.

• The researchers gave nurses the opportunity to think critically and provide a wide range of reactions to the events, which they then analyzed.

The researchers encouraged the nurses to participate in the discussions by rewarding them emotionally with positive comments and gratitude throughout the sessions.

At the termination of each session, the nurses were given the opportunity to indicate any positive changes they had experienced from the preceding session.

IV. Stage four (Evaluation Stage): -

The evaluation of the applied interventional program was performed . The tools of the study were reapplied to all study subjects directly after application of the interventional program.

• **Statistical Analysis:**

The collected data were prepared, tabulated, and statistically analyzed by SPSS software (Statistical Package for the Social Sciences, version 19, SPSS Inc. Chicago, IL, USA). For quantitative data, the range, mean, and standard deviation were calculated. For qualitative data, which label a definite set of data by frequency, percentage or proportion of each category, comparison between two groups and more was done using Chi square test (χ^{2}). For comparison between means of two groups of parametric data of independent samples, t-test was used. For comparison between means of two related groups (pre and post interventional program data) of parametric data, paired t-test was used. For comparison between more than two means of parametric data, F value of ANOVA test was calculated. The level of significance was adopted at $P < 0.05$ and highly significant at $P < 0.001$.

Results:

Table 1 represents Socio-demographic and work experience of the studied nurses. The results revealed that most of nurses were males (58%) with a mean age of ٣٠.6800± 6.83461 years. Regarding their residence, more than half of the nurses (52%) lived in urban areas. Concerning the nurses' marital status, those who were married represented more than half of the studied nurse (56%). In relation to nurses' interventional level, about half of nurses had a Bachelor of nursing (50%) while about one third

had Deplume of nursing (38%). Regarding their income, about half of the studied nurses have not enough income (58%). Regarding nurses' work experience, most of them (73%) had working experience range from (1- 5 years).

Table 2: Illuminates distribution of the studied nurses in relation to their total mean score of resilience pre and post implementation of the interventional program. it can notice that the studied nurses had mean score of resilience before program (1.3400 ±.47852) while this level became (2.3800±.66670) after program then. These results shown that, there were statistically significant differences between nurse's resilience before and after the interventional program while **P-value** = 0.000

Table 3: Shows distribution of the studied nurses in relation to their total mean score of knowledge regarding delirium and its risk factors pre and post implementation of the interventional program. the results showed that, there were statistically significant differences between mean score before and after the program implementation at P value =.000.

Table 4: illustrates distribution of the studied nurses in relation to their total mean score of perception concerning delirium pre and post implementation of the interventional program. The results revealed that, studied nurses had mean score of perception concerning delirium before program (1.3400±.47852) while this level became (**2.6200 ± .49031**) after program then. These results revealed that, there were statistically significant differences

between nurse's resilience before and after the interventional program while **P-value** = 0.000

Table 5: Presents correlation between the total score of resilience, knowledge, and perception. The results revealed, a statistically significant positive correlation between nurses' resilience, knowledge regarding delirium, and their perception concerning delirium where (r = 0.383, P-value = 0.006) (r = 0.290, P-value= 0.041) (r = 0.304, P-value= 0.032) respectively.

Table 6: show relation between the total score of nurses' resilience and demographic data. The result revealed that, there were statistically significant relationship between nurses' resilience and their residence, education level, income, and their years of experience as (P-value= .001, .005, .007 %.038) respectively.

Table 7: Shows relation between studied nurses' knowledge regarding delirium and their socio-demographic characteristics and work experience. The result revealed that, there were not any statistically significant relationship between nurses' knowledge regarding delirium and their socio-demographic characteristics and work experience as P-value more than 0.05%.

Table 8: Illustrates relation between studied nurses' knowledge regarding delirium and their socio-demographic characteristics and work experience. The result revealed that, there were not any statistically significant relationship between nurses' perception concerning and their socio-demographic characteristics and work experience as P-value more than 0.05%.

Table 1: - Allocation of the studied nurses according to their socio-demographic characteristics and work experience.

Studied nurses (n =50)			
Socio-demographic criteria		N	%
Sex	Male	29	58%
	Female	21	42%
Age	20 – 30	21	42%
	31 – 40	24	48%
	41 –	5	10%
	Mean SD: 30.6800± 6.83461		
Marital status	Single	12	24%
	Married	28	56%
	Divorced	10	20%
Residence	Urban	27	52%
	Rural	23	46%
Education level	Deplume of nursing	19	38%
	Institute of nursing	6	12%
	Bachelor of nursing	25	50%
Income	Enough	42	42%
	Not enough	58	58%
Years of experience in ICU	1-5	73	73%
	>5-	27	27%

Table (2): Distribution of the studied nurses in relation to their total mean score of resilience pre and post implementation of the interventional program.

	Pre		Post		Difference		Paired T-test	
	Mean	SD	Mean	SD	Mean	SD	T	P-value
Resilience	1.3400	.47852	2.3800	.66670	-1.04000	.90260	-8.147	.000*

* Statistically highly significant

Table (3): Distribution of the studied nurses in relation to their total mean score of knowledge regarding delirium and its risk factors pre and post implementation of the interventional program

	Pre		Post		Difference		Paired T-test	
	Mean	SD	Mean	SD	Mean	SD	T	P-value
Knowledge	1.2400	.43142	2.5800	.49857	-1.3400	.51942	-18.242	.000*

* Statistically highly significant

Table (4): Distribution of the studied nurses in relation to their total mean score of perception concerning delirium pre and post implementation of the interventional program

	Pre		Post		Difference		Paired T-test	
	Mean	SD	Mean	SD	Mean	SD	T	P-value
Perception	1.3400	.47852	2.6200	.49031	-1.2800	.78350	-11.552-	.000*

* Statistically significant

Table (5): Correlation between the total score of nurses' resilience, knowledge, and perception regarding delirium

		Correlation Coefficient	
		Resilience	knowledge
Knowledge	R	.383*	
	P-value	.006	
Perception	R	. 290*	.304*
	P-value	.041	.032

* Statistically significant

Table (6): Relation between studied nurses' resilience and their socio-demographic characteristics and work experience.

ANOVA test				
Socio-demographic criteria		N	F	P-value
Sex	Male	29	.007	.934
	Female	21		
Age	20 – 30	21	.971	.329
	31 – 40	24		
	41 –	5		
Mean SD: 30.6800 ± 6.83461				
Marital status	Single	12	.342	.561
	Married	28		
	Divorced	10		
Residence	Urban	27	11.446	.001*
	Rural	23		
Education level	Deplume of nursing	19	8.504	.005*
	Institute of nursing	6		
	Bachelor of nursing	25		
Income	Enough	42	7.989	.007*
	Not enough	58		
Years of experience	1-5	73	4.537	.038*
	6-10	27		

* Statistically significant

Table (7): Relation between studied nurses' knowledge regarding delirium and their socio-demographic characteristics and work experience.

ANOVA test				
Socio-demographic criteria		N	F	P-value
Sex	Male	29	.001	.979
	Female	21		
Age	20 – 30	21	1.052	.310
	31 – 40	24		
	41 –	5		
Mean SD: 30.6800 ± 6.83461				
Marital status	Single	12	1.524	.223
	Married	28		
	Divorced	10		
Residence	Urban	27	.098	.756
	Rural	23		
Education level	Deplume of nursing	19	.141	.709
	Institute of nursing	6		
	Bachelor of nursing	25		
Income	Enough	42	3.072	.086
	Not enough	58		
Years of experience	1-5	73	.139	.711
	6-10	27		

Table (8): Relation between studied nurses' perception concerning delirium and their socio-demographic characteristics and work experience.

ANOVA test				
Socio-demographic criteria		**N**	**F**	**P-value**
Sex	Male	29	1.247	.270
	Female	21		
Age	20 – 30	21	.004	.951
	31 – 40	24		
	41 –	5		
	Mean SD: 30.6800 ± 6.83461			
Marital status	Single	12	.342	.561
	Married	28		
	Divorced	10		
Residence	Urban	27	1.169	.285
	Rural	23		
Education level	Deplume of nursing	19	.787	.379
	Institute of nursing	6		
	Bachelor of nursing	25		
Income	Enough	42	.332	.567
	Not enough	58		
Years of experience	1-5	73	2.115	.152
	6-10	27		

Discussion:

Intensive care unit psychosis, delirium, is a disorder of consciousness characterized by perceptual and cognitive impairments and one of the worst problems in the intensive care unit (ICU) (***Forsgren 2010 & Van 2009***) Despite being at the forefront of patient care, nurses' efforts to assess and manage delirium are not always successful. Prevention is preferable to treatment. To enable nurses to be more active in conducting delirium assessment and management, it is crucial to enhance their understanding of the risk factors for delirium as well as general knowledge.

As regards, studied nurse's knowledge regarding delirium and its risk factors. The existing study exposed that, the interventional program has positive effect on nurse's knowledge after implementation of the interventional program compared with their knowledge before the interventional program. Such result can be comprehend in the view of the immediate effect of the interactive sessions which were grounded on nurses' needs besides its clarity, simplicity, and frequently motivating studied nurses to participate in the sessions. Moreover, the studied nurses themselves had the need to know everything about ICU psychosis as they mentioned that this will assist them in their personal and professional life.

In this line, study done by ***Yıldırım, Turkleş , Altundal . 2022***, revealed that, a significant increase was determined in nurses' knowledge regarding delirium after the training. In the study in which ***Ozturk & Aydın (2017)*** provided non-pharmacological interventional training for

delirium to intensive care nurses, it was determined that in the post-training Stage, nurses' practice of reducing noise in the unit, removing unnecessary equipment from the environment, and supporting orientation with a calendar and clock increased significantly. It was determined that nurses' avoidance of dividing sleep hours with treatment hours, providing dim lighting in the night unit environment, and applying practices to support daytime alertness of the patient increased significantly (***Öztürk & Aydın, 2017,& Şahin 2019).*** In contrast to this finding, the study conducted by (***Padilla. 2016***) founded that, there was no significant differences on the knowledge scores between the intervention and the control groups.

Regarding, studied nurse's perception of delirium pre and post implementation of the interventional Program. The result demonstrated that there was statistically significant relation between nurses' perception of delirium pre and post implementation of the interventional Program. In this line, a study by **Devlin et al. 2008** found that nurses of intensive care units had a good perception of delirium, but they give less priority to screening and dealing with this disorder. Glynn's 2015 study also showed that nurses' good perception did not result in their good performance. Despite the fact that the majority of respondents considered delirium as a common, serious, and undetectable syndrome, only 17.9% of them performed delirium assessment.

Stressors disturbing healthcare workers have fast-tracked in recent years, producing aggregate

rates of burnout and emotional exhaustion. Evidence suggests that improving general mental well-being of nurses could enhance their resilience and ability to cope in stressful circumstances. Nurses are at specific danger by caring for different categories of patients who can be violent and abusive. Also, feeling powerless to provide high quality care, poor emotional preparation, stressful, upsetting, or challenging environment. These various circumstances might also result in physical alongside mental health issues like tiredness, irritation, inability to concentrate unhappiness, a depressive feeling, and emotional sensitivity Despite all of these by resilience, nurses are able to cope with the pressures of their jobs and sustain psychological wellness and stability. functioning. In this regard, it's probably going to confirm that resiliency is a protective factor with nurses' physical and mental health wellbeing. Thus, the necessary measures to assist them develop their resilience must be taken.

In relation to studied nurses' resilience, the finding of the present study revealed that, there were statistically significant improvement in nurse's resilience after implementing the interventional program. This result may be attributed to the effectiveness of training sessions that focus on improving self-talk and managing negative self-talk as many nurses reported that it helped improve their self-efficacy and ability to realistically appraise stressful situations and to moderate their emotional responses in order to interact effectively with patients and colleagues.

This result is consistent with study done by *Foster., Cuzzillo, Furness 2018* who illustrated that, Resilience program help improve nurses' self-efficacy and ability to realistically appraise stressful situations and to moderate their emotional responses to others.

Additionally, *Craigie et al . 2016. & Edward, 2010* in their study with mental health care providers, clarified that resilience is a creation of autonomy, responsibility and confidence, and an outcome of using creativity, flexibility, and humor in the work setting. In opposing to this result, study by *Pines al. 2014* conveyed that there no significant differences were found between pre and post-test in his study, after taught topics including resiliency and behaviors of resilient nurses, professional empowerment, management of conflict and the nurses teamwork.

Regarding, correlation between nurses' resilience, knowledge, and perception regarding delirium. The results exposed, a statistically significant positive correlation between nurses' resilience, knowledge regarding delirium, and their perception concerning delirium. This finding may be understood by the datum that" in order to deal effectively with patient who have ICU psychosis, nurses must have sufficient knowledge information base that help them to apprehend everything about patients' behavior". Furthermore, the interventional program covers all necessary knowledge about ICU psychosis that necessary to intervene effectually with this patient. This also shows willingness of nurses to know any information that advances their skills and carrying high quality of care to their

patients. Such result was supporting the efficacy of the training program, which was efficient and comprehensible. Additionally, these results are consistent with *Awad, 2019,* who showed that there was a statistically significant relation between nurses' qualification and their total score of perception and general knowledge and knowledge related to risk factors.

Conclusion:

Grounded on the results of the present study, it can be concluded that there were noticeable significant improvement in the studied nurse total scores of resilience, knowledge and perception concerning delirium after implementation of the education program. Also, there were a statistically significant positive correlation between nurses' resilience, knowledge and perception regarding delirium.

Recommendations:

The results of this study have led to several recommendations:

- To increase nurses' resilience, workshops training are needed about practicing resilience in workplace settings.
- Conduct the interventional program as a continuous training courses for all nurses to achieve more conclusive results.
- Conduct the interventional program in a multiple workplaces to achieve more conclusive results.
- Postgraduate education programs should cover topics that help students develop their

interpersonal relationships, flexibility in their thinking, use of humor, protection of their personal and professional ethical boundaries, emotional intelligence, problem-solving abilities, and coping mechanisms.

- Enhancing coping mechanisms for nurses by making time for activities like yoga, meditation, exercise, music, reading, or photography. Nurses should be encouraged to participate in these programs, which should also be arranged in institutions.

References:

Ali M, Cascella M. (2022) ICU Delirium. In: StatPearls [Internet]. Treasure Island (FL): StatPearls; Available from: https://www.ncbi.nlm.nih.gov/books/NBK559280/

American psychiatric Association (2016). Diagnostic and statistical manual of mental disorders (4th .version). Washington, DC; American psychiatric publishing, chapter. 21pp: 1502- 1016.

Anbu, A. S. (2014). An evaluation of nursing practices regarding delirium assessments in adult critical care units in Western seaboard region of Ireland (Doctoral dissertation).

Awad, S. A. (2019). Critical care nurses' knowledge, perception and barriers regarding delirium in adult critical care units. Am J Nurs, 7(2), 193-198.

Bento MS, Marques RM, Sousa PP. (2018). Delirium: nursing interventions directed to the hospitalized adult patient–a bibliographic review. Enfermería Global. Oct 1; 17(4):674-88.

Connor, K. M., & Davidson, J. R. (2003), September 02). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC) – Connor – 2003 – Depression and Anxiety – Wiley Online Library.

Craigie, M., Slatyer, S., Hegney, D., Osseiran-Moisson, R., Gentry, E., Davis, S., & Rees, C. (2016). A Pilot Evaluation of a Mindful Self-Care and Resiliency (MSCR) Intervention for Nurses. Mindfulness, 7, 764-774.

Devlin, J. W., Fong, J. J., Howard, E. P., Skrobik, Y., McCoy, N., Yasuda, C., & Marshall, J. (2008). Assessment of delirium in the intensive care unit:

nursing practices and perceptions. American Journal of Critical Care, 17(6), 555-565.

Dzau, V. J., Kirch, D. G., & Nasca, T. J. (2018). To care is human—Collectively confronting the clinician-burnout crisis. *New England Journal of Medicine*, **378**(4), 312– 314.

Edwards, D., Burnard, P., Bennett, K., & Hebden, U. (2010). A longitudinal study of stress and self-esteem in student nurses. Nurse education today, 30(1), 78-84.

Fan, Y, Guo, Y, Li, Q, &Zhu, X. (2012). A review: nursing of intensive careunit delirium. Journal of NeuroscienceNursing. Dec 1; 44(6):307-16.

Faught, D.D. (2014). Delirium: The Nurse's Role in Prevention, Diagnosis, and Treatment. Medsurg nursing. Sep 1; 23(5): 301-5.

Forsgren, L. M., & Eriksson, M. (2010). Delirium— Awareness, observation and interventions in intensive care units: A national survey of Swedish ICU head nurses. *Intensive and Critical Care Nursing*, *26*(5), 296-303.

Foster, K., Cuzzillo, C., & Furness, T. (2018). Strengthening mental health nurses' resilience through a workplace resilience programme: A qualitative inquiry. Journal of psychiatric and mental health nursing, 25(5-6), 338-348.

Foster, K., Roche, M., Delgado, C., Cuzzillo, C., Giandinoto, J. A., & Furness, T. (2019). Resilience and mental health nursing: An integrative review of international literature. International journal of mental health nursing, 28(1), 71-85.

Glynn, L., & Corry, M. (2015). Intensive care nurses' opinions and current practice in relation to delirium in the intensive care setting. Intensive and Critical Care Nursing, 31(5), 269-275.

Hare, M., Wynaden, D., McGowan, S., Landsborough, I., & Speed, G. (2008). A questionnaire to determine nurses' knowledge of delirium and its risk factors. Contemporary Nurse, 29(1), 23-31.

Jafarizadeh, H., Zhiyani, E., Aghakhani, N., Alinejad, V., & Moradi, Y. (2017). Effect of resilience-based intervention on occupational stress among nurses. World Family Medicine Journal: Incorporating the Middle East Journal of Family Medicine, 99(5548), 1-5..

Jalil, R., Huber, J. W., Sixsmith, J., & Dickens, G. L. **(2017). Mental health nurses' emotions, exposure to patient aggression, attitudes to and use of coercive measures: Cross sectional questionnaire survey. International journal of nursing studies, 75, 130-138.**

Jayaswal, A.K, Sampath, H, Soohinda, G, & Dutta, S. (2019). Delirium in medical intensive care units: Incidence, subtypes, risk factors, and outcome. Indian Journal of Psychiatry. 61(4):352-4.

Kallenbach, T. F. Amado, L. A. (2017). Assessment of delirium in the intensive care unit. South. AFR. J. Anaesthesia and Analgesia; 23(3): 57- 63.

King, G. A., & Rothstein, M. G. (2010). Resilience and leadership: The self-management of failure. In M. Rothstein, & R. J. Burke (Eds.), *Self-management and leadership development* (pp. 361– 394). Cheltenham, UK: Edward Elgar Publishing Limited.

Kiran, I., Madhuri, I., Kotturi, A.S. (2015).Delirium as a predictor of longer hospital stays in mechanically ventilated patients. International Journal of Medical Science and Public Health. Apr 1; 4(4):544-9.

Lee, J. S., Ahn, Y. S., Jeong, K. S., Chae, J. H., & Choi, K. S. (2014). Resilience buffers the impact of traumatic events on the development of PTSD symptoms in firefighters. Journal of affective disorders, 162, 128-133..

Mansour, A. Farhan, N,Othman, E, &Yacoub, M. (2010). Knowledge andnursing practice of critical care nursescaring for patients with deliriuminintensive care units in Jordan, J. cont. edu. In nursing; 41 (12): 571-6.

Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. Journal of applied psychology, 93(3), 498.

Masten, A., & Obradovic, J. (2006). Competence and resilience in development. *Annals of the New York Academy of Sciences*, **1094**(1), 13– 27.

Matos, P. S., Neushotz, L. A., Griffin, M. T. Q., & Fitzpatrick, J. J. (2010). An exploratory study of resilience and job satisfaction among psychiatric nurses working in inpatient units. International journal of mental health nursing, 19(5), 307-312.

McIsaac, D. I., MacDonald, D. B., & Aucoin, S. D. (2020). Frailty for perioperative clinicians: a narrative review. Anesthesia & Analgesia, 130(6), 1450-1460.

Özsaban A, & Acaroglu R. (2016). Delirium assessment in intensive careunits: practices and perceptions of Turkish nurses. Nursing in Critical Care. Sep;21(5):271-8.

Öztürk Birge A, Aydın HT. (2017). The effect of nonpharmacological training on delirium identification and intervention strategies of intensive care nurses. Intensive and Critical Care Nursing 41(6):33–42

Padilla, M. P. (2016). Delirium education program for critical care nurses: A mixed methods study.. UNLV Theses, Dissertations, Professional Papers, and Capstones.

Park B-M, Jung J. (2021). "Effects of the Resilience of Nurses in Long-Term Care Hospitals during on Job Stress COVID-19 Pandemic: Mediating Effects of Nursing Professionalism" *International Journal of Environmental Research and Public Health* 18, no. 19: 10327.

Pines, E. W., Rauschhuber, M. L., Cook, J. D., Norgan, G. H., Canchola, L., Richardson, C., & Jones, M. E. (2014). Enhancing resilience, empowerment, and conflict management among baccalaureate students: Outcomes of a pilot study. Nurse Educator, 39(2), 85-90.

Roshdy, H., & Sabri, Y. (2016). Predictors for postoperative deliriumafter vascular surgery. EgyptianJournal of Psychiatry. Jan 1;37(1):1.

Şahin H. (2019). A study on the knowledge and attitudes about delirium of nurses working at a university hospital. Master's thesis, School of Nursing, Avrasya University Institute of Health Sciences. Turkey.

Sharma, A., Malhotra, S., Grover, S, & Jindal, S.K. (2012). Incidence, prevalence, risk factor and outcome of delirium in intensive care unit: a study from India. General hospital psychiatry. Nov 1;34(6):639-46.

Tonso, M. A., Prematunga, R. K., Norris, S. J., Williams, L., Sands, N., & Elsom, S. J. (2016). Workplace violence in mental health: A Victorian mental health workforce survey. International journal of mental health nursing, 25(5), 444-451..

Van Rompaey, B., Elseviers, M. M., Schuurmans, M. J., Shortridge-Baggett, L. M., Truijen, S., & Bossaert, L. (2009). Risk factors for delirium in intensive care patients: a prospective cohort study. *Critical Care*, *13*(3), R77.

Vinkers, C. H., van Amelsvoort, T., Bisson, J. I., Branchi, I., Cryan, J. F., Domschke, K., ... & van der Wee, N. J. (2020). Stress resilience during the coronavirus pandemic. European Neuropsychopharmacology, 35, 12-16.

Yıldırım F, Türkleş S, Altundal Duru H. (2022). The effect of delirium information training given to intensive care nurses on patient care: quasi-experimental study. PeerJ 10:e13143